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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,596	09/19/2003	John F. Moore	04408-004001	7046

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EXAMINER

COY, NICOLE A

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/665,596	Applicant(s) MOORE, JOHN F.	
	Examiner Ngoc Kinney	Art Unit 3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on September 23, 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,8-12,14-20 and 23-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23-29 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,8-12,14-20, and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 30 is objected to as failing to provide proper antecedent basis for “the diamond core bit”. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bossler (U.S. Patent No. 5,158,393) in view of Barron (U.S. Patent No. 2,978,846). Bossler discloses a method and a drill bit comprising a body 10 having a proximal end (see Figure 6) and a distal end (see Figure 6) with a closed face 114, the body defining an axis and comprising a first portion 14 adjacent to proximal end and a second portion 28 adjacent to the distal end wherein the portions are substantially cylindrical and a first outer diameter of the first portion 14 is greater than a second outer diameter of the second portion 28; a coupling 92 at the proximal end, the coupling adapted for connection with a rotary driver; a primary cutting surface 112 substantially located on a portion of the body with a diameter greater than a diameter of the closed face (see figures 6 & 7); and a depth stop with a disc shaped outside ring 72 to limit the penetration of the bit. Bossler fails to disclose a secondary cutting surface substantially located on a portion of the body with a diameter greater than a diameter of the closed face and that the first outer diameter is approximately thirty-three percent greater than the second outer diameter.

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Barron discloses a drilling apparatus with a secondary cutting surface substantially located on a portion of the body with a diameter greater than a diameter of the closed face (Figure 5). Barron suggests that a secondary cutting portion with a diameter greater than a diameter of the closed face is necessary to cut accurate holes with or without counter boring, in a single pass (column 2, lines 2-5). Therefore it would have been obvious to one skilled in the art at the time of the invention to modify the drill bit taught by Bossler to include the secondary cutting surface of Barron in order to shorten operating time by boring holes in a fast and economical manner.

3. Claims 1, 2, 4, 5, 8-10, 12, 14-15, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bossler in view of Barron and Alsup (U.S. Patent No. 2,475,512). Bossler disclose of a drill bit as applied above with respect to claim 1, but it fails to teach the depth stop adjustably secured to the first portion by a plurality of adjusting screws. Alsup teaches the use of a plurality of adjusting screws (Figure 1, item 12), which are substantially parallel to the axis, in a disc shaped depth stop mechanism (Figure 1, item 5) and suggests that the use of such a device allows the drilling depth to be readily adjusted and provides accuracy in drilling. Therefore, based on the motivation of Alsup it would have been obvious to one skilled in the art at the time of the invention to modify the depth stop mechanism of Bossler to include the plurality of adjusting screws of Alsup in order to drill a precise hole by limiting the penetration of the bit.

With regard to claim 5, the combined reference teaches the drill bit wherein the first outer diameter is between about 1.9 and 2.7 inches and the second outer diameter is between about 1.5 and 2.1 inches (Bossler figure 6, item 1 10, and column 8, lines 50-53; Barron figure 3, and column 1, line 2).

With regard to claim 8, the combined reference discloses a drill bit wherein an outer diameter of the intermediate ring 17 is between about 1.9 and about 2.3 inches (Barron figure 3, and column 1, line 2).

With regard to claim 9, the combined reference teaches a drill, bit wherein the at least one outer diameter cutter segment comprises a plurality of outer diamond cutter segments spaced around a circumference of the closed face (Bossler, Figure 7, item 112, and column 2 lines 45-46; Barron figure 3, item 14)

With regard to claim 10, the combined reference discloses a drill bit wherein the primary cutting surface further comprises at least one inner diamond cutter segment extending across the closed face (Bossler, Figure 7, item 116, and column 2 lines 45-46; Barron figure 3, item 14).

Regarding claim 12, Bossler teaches the drill bit as disclosed wherein the coupling is threaded 96 to fit a drilling machine 98.

Regarding claims 14 and 15, Bossler disclose of the pilot drill 28 extending axially from the distal end of the body and tipped by a diamond cutter tip (column 5, lines 30-31; Figures 3 & 7; column 8, lines 15-19).

4. Claims 11, 16-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bossler in view of Barron and Alsup as applied to claims 1, 2, 4, 5, 8-10, 12, 14-15 and 19 above, and further in view of Miller (U.S. Patent No. 2,996,061). The combined reference of Bossler and Barron teach the apparatus as applied to the claimed mentioned above, but it does not teach the use of water as a water-cooling agent. Miller discloses a drill bit wherein the outer and inner diamond cutter segment are water cooled (column 1, lines 34-40). Therefore, based on the motivation of Miller, it would have been obvious to one of ordinary skill in the art at the time

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of the invention was made to modify the combined reference to include the use of water as a cooling agent to increase the operative life of the drill by the effective flushing action and cooling properties when using water.

Allowable Subject Matter

5. Claims 23-29 are allowed.

Response to Arguments

Applicant's arguments filed September 23, 2005 have been fully considered but they are not persuasive.

Applicant has argued that Bossler does not disclose drilling a two diameter hole using a drill bit that includes "a primary cutting surface substantially located on a closed face of a first portion at a distal end of a body of the drill bit forming a portion of the hole defined by the first diameter and a secondary cutting surface substantially located on an intermediated ring extending radially outward circumferentially about a second portion of the body of the drill bit forming a portion of the hole defined by the second diameter in one step." The examiner disagrees and believes that Bossler is disclosing drill bit for drilling a two diameter hole (Figure 8) comprising of a planar forward portion having a circular periphery and a core drill centered within (column 2, lines 22-40 and column 3, lines 33-35).

Applicant has also argued that Bossler in view of Alsup and further in view of Barron do not disclose a body including "a first portion adjacent to a proximal end and a second portion adjacent to a distal end wherein the portions are substantially cylindrical and a first outer diameter of the first portion is greater than a second outer diameter of the second portion" and that the small core bit 28 is a pilot drill rather than a portion of the drill bit body. The examiner

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disagrees and acknowledges that Bossler discloses a drill bit comprising a body as described above and that the entire bit can be considered the "bit body" and thus it has these features.

Alsup teaches the use of a plurality of adjusting screws (Figure 1, item 12), which are substantially parallel to the axis, in a disc shaped depth stop mechanism (Figure 1, item 5) and suggests that the use of such a device allows the drilling depth to be readily adjusted and provides accuracy in drilling. Barron discloses a drilling apparatus with a secondary cutting surface substantially located on a portion of the body with a diameter greater than a diameter of the closed face. Barron suggests that a secondary cutting portion with a diameter greater than a diameter of the closed face is necessary to cut accurate holes with or without counter boring, in a single pass (Figure 5 and column 2, lines 2-5). Miller discloses a drill bit wherein the outer and inner diamond cutter segment are water cooled (column 1, lines 34-40).

In addition, Alsup, Barron and Miller are secondary references and do not need to possess all the features claimed as long as the primary reference, which is Bossler, has already disclosed.

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

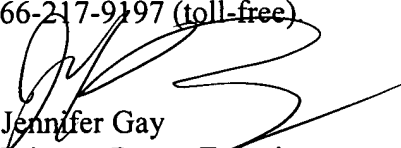
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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc Kinney whose telephone number is 571-272-1615. The examiner can normally be reached on 9-6 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer Gay
Primary Patent Examiner
Art Unit 3672

nmk